

Conference:

Lipid Mediators in the Normal and Abnormal Pulmonary Circulation

Reports from the Second Grover Conference, Deckers, Colorado
September 15-18, 1986¹

This is the first in a series of reports from the Second Grover Conference. Subsequent reports will appear in the August and September issues of the AMERICAN REVIEW OF RESPIRATORY DISEASE.

Essential lipids contained within the cell membranes of lung blood vessels could control important functions of the lung circulation. These lipids are largely metabolites of phosphatidylcholine and phosphatidylinositol, such as the essential fatty acid, arachidonic acid, and the ether lipid, platelet activating factor. The metabolites of arachidonic acid, in turn, include the prostaglandins, thromboxane, and the leukotrienes. These membrane lipids are common to many regulatory systems within the body. Within the lung, there is growing evidence that these lipids participate in the control of vasomotor tone, vascular permeability, and inflammation. If so, and because these are essential lung functions for maintaining health and combating disease, it seemed important to focus attention on these lipid substances and their biologic roles.

A conference dedicated to this goal brought together experts from many fields including adult and pediatric pulmonary and cardiac medicine, physiology, pharmacology, cell biology, biochemistry, and morphology. Three general areas were considered, namely,

how the lipid substances might maintain normal lung vascular function, and how they might participate in acute and in chronic lung vascular injuries. Within these areas, biologic roles for the lipids were examined for the fetus, neonate, and adult. Interactions of the lipids with blood components, vessel walls, and lung parenchyma were considered. The conference discussed biochemical mechanisms for activation and for inactivation of the lipid metabolic pathways. Because experience from other vascular beds and from bronchial smooth muscle could relate to the lung circulation, studies involving cerebral and coronary arteries as well as airways were reported. Finally, the possible use of these lipid substances in therapy for diseases of the lung and its circulation were examined. Reports in this and successive issues of the AMERICAN REVIEW OF RESPIRATORY DISEASE are to provide the scientific community with the results of the conference. To conclude the series, there is a conference summary by Dr. Kenneth Brigham.

The Grover Conferences, which honor the many contributions of Dr. Robert F. Grover, are organized by The Pulmonary

Circulation Foundation to provide a forum for the dissemination of recent, important information on the pulmonary circulation. They are workshops involving approximately 40 scientists, conducted in a remote site in Colorado to provide for maximum and undisturbed exchange of ideas. The first conference, held in 1984, focused on pulmonary vascular reactivity. The third conference, projected for 1988, will be concerned with mechanisms and therapeutic maneuvers relating to cell-to-cell interactions which promote proliferation and hypertrophy within and around the pulmonary vessels.

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